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ABSTRACT

Three studies were conducted to replicate and extend research on advertisements for children on Saturday morning television, and during children's programs at other times. Resarch focused on amount and frequency of advertisements, as well as the types of products advertised. Study 1 concerned the Saturday morning time period, when children constitute a majority of the audience. In study 2, children's programs broadcast at times other than Saturday morning were analyzed for nonprogram content. Findings of studies 1 and 2 were compared. Study 3 considered how many of the ads on children's television programs were for products that represent characters or ancillary props on television shows. A comparison of the findings of these studies with findings obtained in the 1970s revealed that the amount of time devoted to program and nonprogram content has remained remarkably steady. Findings on Saturday morning time slots revealed an inverse relationship between the number of ads and the number of public service announcements. Number of ads is directly correlated to audience size. Findings further indicated that ordinary viewers were exposed to well over 30,000 product ads per year, and that the types of products advertised to children have changed dramatically over the years. The current emphasis is on toys and games. References, figures and tables are appended. (RH)

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THE NON-PROGRAM CONTENT OF CHILDREN'S TELEVISION

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American children watch an enormous amount of television by any account. They spend more time watching television than they do in school (Pearl, Bouthilet, & Lazar, 1982), and perhaps as much time as they spend in direct contact with their parents (Singer & Singer, 1983). The only activity children do more than watch television is sleep (Comstock, Chafee, Katzman, McCombs, & Roberts, 1978; Murray, 1980; Singer & Singer, 1981). Given that children are just acquiring knowledge about the world, the amount of attention devoted to this particular feature of the environment raises a serious question about its influence.

At one time it was argued that television watching induces passivity compared to the "active" process of learning that occurs in everyday life (Winn, 1977), but current research and theory holds quite the opposite view. Children pay active attention to television and learn from the images it portrays, the stories it tells, and the values it conveys (Pearl, et al., 1982; Wright & Huston, 1983; Singer & Singer, 1983). The question is no longer whether children learn from television, but what they learn, and how. To begin to answer this question, we must have an accurate and representative description of the content of television to which most children are exposed. What does television for children consist of? What is its structure and content? Any ecologically meaningful research must begin in this manner, with a description of the environment (Gibson, 1979).

While child viewing is not confined to any particular time of day, week, or year, the audience ranging in age from 2 to 12 is especially large after school on weekdays and on Saturday and Sunday mornings (Adler, Lesser, Meringoff, Robertson, Rossiter, & Ward, 1980; Barcus, 1978; Comstock, et al., 1978; Nielsen, 1985). During these time periods, local stations or networks show cartoons, situation comedies, and other programs designed specifically for children. Commercials during these time periods are designed to attract child audiences as well (FTC Staff Report, 1978).

The primary focus of this research is non-program content: commercials, public service announcements (PSAs), drop-ins and program promotions. How much time is devoted to these various types of non-program content during the Saturday morning hours of television? How does this compare to other time periods in the week, especially those during which children's shows are broadcast? What products, services and activities are promoted in commercials and how does this differ by network, time of the morning, or season of the year? Three studies of television content directed toward children were conducted in order to begin answering these questions.

In study 1 the focus is on the Saturday morning time period when children constitute a majority of the audience (Comstock, et al., 1978; Nielsen, 1985), a time once called the "kid vid ghetto", both because of the size of the child audience and the low quality of the programs shown (Grossman, 1981). Just about half of the forty million children in the United States between the ages of 2-12 watch television sometime on Saturday morning between 7 a.m. and 12 noon (Adler, et al., 1980; Nielsen, 1985). In study 2 children's programs broadcast at times other than Saturday morning are analyzed for non-program content. These results are then compared to the findings for the Saturday morning time period.

In study 3 we ask; how many of the ads on children's television programs (both Saturday morning and at other times) are for products that are characters or ancillary props on television shows? This is a question about the strength of the association between children's tv programs and products in the market place. Consumer advocacy groups, like Action for Children's Television (ACT), are asking how many programs are broadcast that have products in the market place? A comparable measure of the strength of this association is the number of ads on children's programs that have a television program tie-in.

While a good deal of research has been devoted to programs (see Pearl, et al., 1982, for a recent review); and some of this research even concerns children's programs (see Bryant & Anderson, 1983; Palmer & Dorr, 1980; Singer & Singer, 1983; Wright & Huston, 1983; Dorr, 1986), a good deal less attention has so far been devoted to the study of ads. Yet there are excellent reasons for doing so: commercials are widely available, especially attractive to children, and designed to be persuasive.

While TV programs differ by network and time of day (Nielsen, 1985) and are selectively viewed, commercials for the same products are found on all three networks (Scheibe, 1983), and are viewed non-selectively. Children are exposed to the few programs they choose to watch, but those who watch commercial television are exposed to most ads designed for children (FTC Staff Report, 1978). Commercials for products attractive to children (toys, candies, and cereals) are found on all networks at every hour of the Saturday morning time period from 7 a.m. to 12 noon (Adler et al., 1980).

Not only are commercials widely available on tv viewed by children but there are also quite a few of them. According to an estimate by the National Science Foundation, the child 2-5 is exposed to 22,338 commercials a year, while the 6-11 year old is exposed to 19,856 per year (Adler & Faber, 1980, p.18). By the time the average child has grown to adolescence, he or she will have been exposed to at least 200,000 commercials. Our data will allow us to test this contention.

In addition to being ubiquitous and numerous, commercials are very attractive to children who are influenced by them and attentive to them from an early age (Atkin, 1982; Adler & Faber, 1980; Greer, Potts, Wright, & Huston, 1982). For example, children start singing the jingles and asking for products advertized on television from about 2 years of age on (Atkin, 1982; FTC Staff Report, 1978). By adolescence, children become somewhat cynical about ads

(Robertson & Rossiter, 1974), but there is no evidence they are less influenced by them (Ward, Wackman, & Wartella, 1977; Rossiter, 1980b).

Recent research has demonstrated that the reason commercials are so attractive to children is that the audio/visual techniques used in them are especially designed to capture and hold a child's attention (Levin, Petros, & Petrella, 1982; Zuckerman, Ziegler, & Stevenson, 1978). Television ads are designed to include many "salient formal features" (Greer, et al., 1982) such as high action, rapid change of scene and character, and frequent use of camera techniques such as cuts and pans, in order to capture and maintain the attention of the child audience (see also: Anderson, Alwitt, Lorch, & Levin, 1979; Anderson & Lorch, 1983; Wartella & Ettema, 1974). In fact, some educational programs, Sesame Street for one, are designed to utilize these same "formal" techniques used in commercials to capture and hold attention (Lesser, 1974) and there is some debate now about the wisdom of this practice (Singer & Singer, 1983).

Finally, unlike most programs, commercials are meant to be persuasive. Most commercials are designed to bring about some form of attitude and behavior change whereas programs are just designed to be attractive and to hold attention (Krugman, 1965; Vaughn, 1980; Sawyer & Ward, 1977; Tuchman, 1974). Commercials are considered successful by those who make them if the viewer understands them and accepts and integrates the message into his or her attitude and value structure (Burnett, 1961; Ogilvy, 1983).

There is little doubt that commercials accomplish these limited goals, as many researchers have demonstrated (see Adler & Faber, 1980; Atkin, 1982; Gorn & Goldberg, 1982; Palmer & Dorr, 1980). Commercials accomplish what they intend to accomplish in terms of getting children to remember and want the products advertized. It is reasonable to ask, however, what else do these persuasive messages accomplish? What other effects do they have on viewers

that are not necessarily intended by those who produce them (Gussow, 1972)? In order to hypothesize about this we need to know more about the commercials actually on television designed for children, for example: how many are there and what do they promote? Moreover, such information must be updated periodically because advertising practices and network policy change over time (Adler, 1980; Rossiter, 1980 a,b).

In this research we are also interested in Public Service Announcements, or PSAs. These educationally oriented "bits" of television are very much like commercials in that they are designed to be attention getting and persuasive, and they are known to be effective. PSAs have been shown to be successful influencing cooperative play in children (Liebert, Sprafkin, & Poulos, 1975), and good nutritional practices (Atkin, 1975; Goldberg, Gorn, & Gibson, 1978). PSAs have been successful in anti-littering campaigns (Atkin, 1978), and to promote the wearing of seat belts (Atkin, 1978). On the other hand, PSAs have not been particularly effective in reducing drug use or smoking (Atkin, 1978).

A relatively recent addition to the non-program content of children's programs, particularly Saturday morning television, are "drop-ins". Drop-ins are "mini programs" produced by the networks and are anywhere from 30 seconds to 5 minutes in length. Drop-ins are generally meant to be informational in nature and most have their own sponsors. Some drop-ins are composed of network news clips and presented as a news program for a child audience. Examples of drop-ins are In the News (CBS), Ask NBC News, (NBC), and Scooter Computer and Mr. Chips (ABC). Since drop-ins are relatively new, there has been no published research on children's attention to them or their effectiveness.

BACKGROUND RESEARCH

There has been a good deal of interesting research on television commercials (see reviews by Adler, et al., 1980; Palmer and Dorr, 1980; Atkin,

1982), although most of it has focused on the specific features of commercials rather than on a description of the structure of the commercial "environment" to which children are exposed.

Broadly speaking, research on commercials falls into the categories of how much attention children pay to them and what audio-visual techniques are effective in holding and maintaining attention (Greer, wt al., 1982; Anderson & Lorch, 1983; Levin, et al., 1982; Zuckerman, et al., 1978), the effects of premium offers (Ward, 1980), self concept appeals (Rossiter, 1980a), different formats (Meringoff & Lesser, 1980) and, of course, the extent to which children understand them and are persuaded by them (Robertson & Rossiter, 1974; Atkin, 1982; Gorn & Goldberg, 1982). Much of the recent research interest in commercials has come about because of the activities of federal agencies, especially the Federal Trade Commission, in proposing regulations regarding commercials directed to children (FTC Staff Report, 1978; Rossiter, 1980b).

Only one line of research as consistently dealt with what commercials on children's programs are actually about. In the early 70's, F.Earle Barcus, a Professor of Communication at Boston University, was commissioned by Action for Children's Television (ACT), to survey and describe the nature of commercials on television directed to children. Throughout the decade of the 70's Barcus conducted several studies and issued a number of reports of his findings. These constitute the only history of advertising to children publicly available.

Drawing his first sample in June of 1971, Barcus found that on the average, 20% of Saturday morning program time was devoted to commercials. Some stations in his sample had as much as 25% non-program material on Saturday morning. In 1971, an average hour of children's programming contained 26 commercial messages (one every 2.8 minutes). In a second sample taken in November of 1971, Barcus found 25% of children's television time was devoted to

commercials, and there was an average of 30 announcements per hour (Barcus, 1972). On the whole, in the early 1970's about one fifth, or 12 minutes of the average hour of children's programming was devoted to non-program material. By contrast, during this same time, non-program material on prime time (8 - 11 P.M. weekdays) was restricted to 9.5 minutes per hour (NAB code, 1978; Adler & Faber, 1980, p.313). So in the early 70's, programs for children contained about one third more non-program content than programs during the peak viewing hours on "prime time".

In April, 1975, sampling 5 stations in the Boston area (3 network, 2 independent) on Saturday and Sunday from 7 a.m. to 1:30 p.m. Barcus found 13.1% of the total broadcast hour was devoted to commercial messages and 2.8% of the time to program promotions, which Barcus combined with commercial messages for a total of 15.9% "time devoted to advertising" (Barcus, 1980, p.274). In addition to this percentage of ads, Barcus counted 3.2% non-commercial announcements and 1% station ID's and miscellaneous. This left a 79.9% of the hour devoted solely to program material on children's programs. Compared with 1971, then, by 1975 Barcus found about the same amount of time devoted to <u>non-program material</u> (20%), but relatively speaking less of it was for commercials and more of it was for PSAs.

If the amount of time devoted to commercials decreased substantially (20% to 15.9%) between 1971 and 1975, the <u>number</u> of messages remained about the same. In his 1975 sample, Barcus found an average of 20 messages per hour, or one every 3 minutes. This was due partly to the introduction of the 30 second commercial (Rossiter, 1980a). Thus commercial minutes per hour and frequency or number of commercials per hour are both important and useful measures of the amount of advertising directed to children. In the studies reported here, we will utilize both measures.

In October of 1977 Barcus drew another sample, and found a further reduction of time devoted to commercials. In this 1977 sample, he found 14% of the hour devoted to commercials at a rate of 18 announcements per hour (cited in Barcus, 1980, p. 274).

Barcus' most recently reported survey of non-program content of children's television was released in 1978, and it included a detailed analysis of types of products advertised to children. This 1978 survey of 33 hours of programming in the Boston area indicated that, "... on the average the child is exposed to 15 commercial messages, five program promotions, and two public service announcements per viewing hour (Barcus, 1978c, cited in Barcus, 1980, p.275). In this same study, Barcus found that 80% of all ads broadcast on children's television (network and independents) fell into four product categories; Cereals, Toys, Candy, and Fast-food Restaurants. Not only did commercials for food comprise more than 80% of network ads, but the majority of these were for heavily sugared products. These findings compare favorably with studies commissioned by the FTC Staff in its analysis of commercials directed to children. Drawing a sample on a Saturday in September, 1977, between 8:30 a.m. and 1:30 p.m., the FTC staff found: "45 of the 59 food commercials on ABC (76%) were for heavily sugared products, as were 41 of 54 food commercials on CBS (76%), and 43 of 59 food commercials on NBC (73%)." (FTC Staff Report, 1978, p.58).

The purpose of the studies reported here is to replicate and extend this line of research on the amount, frequency, and type of products advertised to children on Saturday morning television, and on children's programs at times other than Saturday morning (e.g. after school; Sunday mornings). Since earlier research was limited to samples collected in a single month, we plan to draw a representative sample over two entire years (1983 & 1985) in order to see if non-program content varies between the years, within the year, as well

as across the hours of Saturday morning. As a review of Barcus's methods indicates, the issue of what is to be categorized as "non-program" time, compared to program time, is an important one.

The National Association of Broadcasters (NAB) Television Code defines non-program material as including: billboards, commercials, promotional announcements and credits in excess of 30 seconds per program (in programs of 90 minutes or less in length). The NAB code specifically excludes Public Service Announcements and promotional announcements for the same program in their definition of non-program material (Adler & Faber, 1980, p.313).

Children's programming time is defined by the NAB Code as "Those hours other than prime time in which programs initially designed primarily for children under 12 years of age are scheduled" (cited in Adler & Faber, 1980, p.313). For children's programming time on Saturday and Sunday morning, the NAB has repeatedly asked its member stations to regulate the number of minutes of non-program material in any 60 minute period.

Prior to 1973 the allowable time for commercials was 16 minutes per hour, but in 1973 this was reduced to 12 minutes per hour. By 1974 this was further reduced by the NAB to 10 minutes per hour, and in 1975 it was reduced again to 9.5 minutes (Adler, 1980, p. 224). Apparently this is where things stand at the moment.

In 1982 the Federal Trade Commission (FTC) challenged the NAB's television code. The FTC charged that limiting commercial time was restraint of trade. As a result, the NAB no longer enforces the code (Runyon, 1984). But several sources (Runyon, 1984; Rossiter, 1980b; Barcus, 1980) have suggested that the networks would continue to follow the previous guidelines.

A final issue addressed in this study is the changing nature of advertising aimed at children. This will be accomplished by examining the strength of the association between ads and television programs.

METHOD

Sample The samples of television content used these studies were drawn from the Human Development and Television (HDTV) archive at Cornell University developed by Condry and Scheibe (1984). This archive contains clustered random samples of television content videotaped four months out of the year. The current archive contains samples for March, June, September, and December of 1983 and 1985. For each month sampled, a "sample week" of television was constructed using a randomized block design, randomly selecting one Sunday, one Monday, and so forth, with each selected day's programming videotaped from 7 a.m. to 1 a.m. The three major networks (ABC, NBC, CBS) were monitored through their affiliates in Syracuse, N.Y. A random rotation schedule was used, so that each station was monitored for one hour out of every three.

STUDY 1

The sample used in **Study 1** consists of all Saturday morning television content available in the archive sample described above. This produced a total of 40 hours of Saturday morning television: the five hours between 7 a.m. and 12 noon on one Saturday in each of the four months (March, June, September, and December) for both 1983 & 1985. The 40 hours were distributed between the three networks as follows: 7 hours (CBS), 7 hours (ABC), 6 hours (NBC) in 1983 and 8 hours (CBS), 6 hours (ABC), 6 hours (NBC) in 1985.

Procedure. Data on month, time, program and network for each content message were taken from records made at the time of taping. All non-program content was timed in seconds with a stopwatch from the videotape. Each non-program message was identified by name and type, using categories developed by Condry and Scheibe (1984) and the HDTV archive staff. The beginning of each hour coincided with the start of the program. Two coders utilizing these

criteria established a reliability of 89% agreement overall. Only one coder's scores (the second author) were used in this analysis.

Content Categories. The content of the hour was divided into the two categories of program and non-program content. Non-program Content was divided into Commercials (Ads), Public Service Announcements (PSAs), Drop-ins and Promos. Promos included both program promotions and station identifications. Program content included program credits, voiceover promos, introduction to the programs (including "teasers"), billboards, program/commercial separators (e.g. "We'll be right back after these messages!"), as well as the programs themselves. The programs broadcast during this time period were primarily designed for children, but the sample did contain a space shuttle launch that was broadcast on one Saturday morning in the sample.

Commercial product categories were taken from categories used by the HDTV archive (Condry & Scheibe, 1984). These categories were then collapsed for analysis, so that the final product categories used were:

Cereals (including granola bars)
Sugared foods and beverages
Restaurants, other food and beverage
Toys and games
Other products (e.g.hygiene, retail, medicine,apparel etc.)

Public service announcements were coded as messages that promoted educational information, health, and non-profit organizations or issues, rather than a product or service for which a fee is charged.

Drop-ins were coded as messages that were informational in nature and either produced or co-produced by the network.

RESULTS

Data were first analyzed separately for each year (1983 & 1985) and any significant differences were reported. Yearly data are sometimes collapsed and analyzed to present a more comprehensive overview of the tv environment. When

there are no significant differences by year, the most recent data (1985) are reported.

Average hour of Saturday morning programming

Figure 1(a) shows an average hour of Saturday morning television divided

-- Insert Fig. 1(a) about here --

by program content, and the four types of non-program content (Commercials, PSAs, Drop-ins, and Promos) combining both 1983 and 1985 samples. As this figure indicates, 48.3 minutes (80.4%) of each hour of Saturday morning television was devoted to program material, while the remaining 11.8 minutes (19.6%) was taken up by non-program material. Commercials take up an average of 7.6 minutes of the hour (12.7%), PSAs take another 1.5 minutes (2.6%), Drop-ins take 1.4 minutes (2.3%), and Promos take 1.2 minutes, (2.0%) of the hour.

The relative proportion of different types of non-program messages depends on whether the measure is time (average number of minutes per hour) or frequency (average number per hour). While the proportions are much the same for commercials (product ads), the measure used does make a big difference for PSAs, Promos, and Drop-ins. Promos are generally short (3-15 seconds) and therefore appear with high frequency but take up little overall time in the average hour. PSAs and Drop-ins, on the other hand, are generally longer (often 1-2 minutes in length) and therefore take up a larger proportion of minutes in the average hour than their relative frequency would suggest.

Figures 1(a) and 1(b) illustrate this difference. While Figure 1(a) shows the relative proportion of the four types of non-program messages in minutes, Figure 1(b) illustrates the frequency distribution of the four different types of messages. In an average hour of Saturday morning television, then, there are about 15 product commercials (7.4 minutes), 4-5

program promos (1.2 minutes), 2-3 PSAs (1.5 minutes), and 1 drop-in (1.4 minutes).

Comparing the incidence of non-program messages across the two years of the sample (1983 and 1985), there were no significant changes in the number of minutes devoted to each type of non-program message, nor in the total number of minutes of non-program content in the average hour of Saturday morning programming. There was, however, a significant drop in the frequency of PSAs from 1983 (n=70) to 1985 (n=39) in the 20 hours of programming sampled for each year [x^2 =13.98, p<.005]. There was also a significant increase in the total number of non-program messages in the total sample from 1983 (n=441) to 1985 (n=489) [x^2 =4.95, p<.05].

Network differences

Figure 2 shows the average time devoted to non-program material by network for 1983 & 1985 combined. These data are for 40 hours of broadcasting

-- Insert Figure 2 about here --

with nearly but not completely equal samples from each network. Due to our manner of sampling, each mean of the network analysis was based on 15 hours of programming from CBS, 13 hours from ABC, and 12 hours from NBC. A one-way analysis of variance (ANOVA) for unequal cell frequencies performed on these data indicates that the networks differ significantly in terms of the total amount of time devoted to non-program content [F =7.68, p<.005]. Our data for '83 & '85 combined showed that ABC has more time devoted per hour to Drop-ins than either NBC or CBS, and this difference across networks is highly significant, [F = 6.76, p <.005]. In the separate analysis by year the only other differences in amount of time across networks occurred in 1983 in Total non-program messages, [F =5.64, p<.025] and in 1985 for Drop-ins, [F =4.52,

$p<.05$. ABC has more minutes per hour than the other networks in both these categories.

Network analyses were also conducted on the number of messages in each content category. Table 1 shows the percent of message type by network and year. Significant differences across the three networks were found for cereal ads, promos, and drop-ins for both years sampled. NBC had a higher proportion

-- Insert Table 1 about here --

of cereal ads than CBS, while CBS had more miscellaneous product ads. CBS had a higher proportion of promos than either NBC or ABC, while ABC had proportionately higher numbers of drop-ins than the other networks. In addition, in 1983 there was also a significant difference between the networks in the number of ads for toys and games, with NBC showing only half as many toy ads as the other two networks.

Within each network, there were several significant changes between 1983 and 1985. NBC had three times as many ads for toys and games in 1985 as it had in 1983 [$x^2=11.88, p<.005$], and half the number of PSAs [$x^2=3.43, p<.08$]. ABC also had a significant drop in PSAs [$x^2=9.81, p<.005$]. CBS also had a drop in PSAs, although a smaller one than the other two networks [$x^2=2.94, p<.10$].

Between the years of 1983 and 1985 there was a slight increase in the total number of product ads shown. As figure 3 illustrates, the average number of ads for toys and games increased on all three networks, while the number of ads for cereals decreased.

---Insert Figure 3 about here---

Time slot differences

The sample contained four hours of broadcasting at each of the five one hour time slots from 7 a.m. until 12 noon for each year, 1983 and 1985. Data were analyzed by both frequency and amount of time - separately by year.

Analyses of the **1983** frequency of commercials, PSAs, and Drop-ins revealed significant differences for PSAs by time slot: [x^2 =14.42,$p<.01$] and for Drop-ins: [x^2 =16.38,$p<.005$]. Number of commercials across time slot was not significantly different. It appears that when the number of commercials is high the number of PSAs and Drop-ins are low.

One way Anova's performed on the 1983 average total time of all non-program messages by time slot indicated a significant difference across timeslots for total time of all non-program messages: [F=3.71,$p<.05$] and for amount of time devoted to Drop-ins: [F=13.63,$p<.01$]. The 10-11 a.m. timeslot had more minutes devoted to total non-program content and significantly more to drop-ins than did the other time periods.

Analyses of the **1985** Saturday morning frequency of commercials, PSAs and Drop-ins revealed significant differences. For frequency of commercials by time slot: [x^2 =20.55,$p<.005$], and for PSAs: [x^2 =81.64,$p<.005$], and for Drop-ins: [x^2=15.92, $p<.005$].

Figure 4 shows the average total time of all non-program messages by time slot for 1985.

---Insert Figure 4 about here ---

A one-way analysis of variance (ANOVA) indicated that there were no significant difference in **total amount of time** of non-program messages by timeslot but there were significant differences for Commercials: [F=9.65,$p<.01$] and for PSAs [F= 30.62,$p<.01$] and for Promos [F=5.34,$p<.01$] and for Drop-ins [F=4.55,$p<.025$] by timeslot.

Monthly differences

Figure 5 shows the number of commercials by product type across the four months in our sample (March, June, September, December), for 1983 and 1985 combined.

-- Insert Figure 5 about here --

There were several significant differences by month, with December having more ads for toys and games, [x^2=18.14, p<.005] and fewer ads for cereal, [x^2=8.87, p<.05] and Candy or Snacks, [x^2=13.86, p<005]. There were also fewer total product commercials in December than in any other month, although this difference was not significant. Finally, there was a higher percentage of ads for candy in March than any other month (perhaps because of Easter).

DISCUSSION Study 1

In his 1978 study, Barcus found approximately 79.9% of the hour devoted to program material and 20.1% devoted to non-program content. Our findings for each of the four months combined in 1983 & 1985 indicated that there has been very little change in non-program material. We find 80.4% of Saturday morning is program content and 19.6% devoted to non-program material. There also seems to be no change from 1978 in the number of messages. Barcus noted that the average hour of children's programming included 15 commercial messages, 5 program promotions, and 2 PSAs (drop-ins were not accounted for). We found that the average hour of Saturday morning television included 14.9 commercials, 4.4 program promotions, 2.72 PSAs and 1.19 drop-ins. Table 2 compares our results with those of Barcus in 1978, and shows the changes in the percent of types of ads and the more general categories for non-program content from 1978, 1983 and 1985.

---Insert Table 2 about here---

The percent of all commercials that are for toy and game ads on Saturday morning has almost tripled from 1978, while the percent of cereal and candy ads have decreased. Other food and beverage ads have increased slightly and the "other" category has almost tripled. The increase in the other category can be explained by the increase in apparel ads directed at children - mostly for

jeans. The types of non-program messages have remained about the same across the seven year period with one exception: the percent of PSAs has a "bow" shape, that is, 9.1% of all non-program content were for PSAs in 1978, 15.9% in 1983 and a substantial drop to 8% in 1985.

Because our sample was more extensive than most others taken, we were able to view the structure of non-program content across the five timeslots (hours) of Saturday morning from 7 a.m. until 12 noon. Total time devoted to non-program material does not differ across time in the morning but there is variation in the type of message. The most commercials and least PSAs are during the peak audience times of 9-10 and 10-11 a.m.

Saturday morning also has variation in non-program messages by network. ABC has more time devoted to non-program content because it devotes significantly more time to "drop-ins". CBS has more program promotions, and all three networks have significantly decreased both time and frequency of Public service announcements. The networks differ by type of product advertised to children. NBC has more cereal ads and CBS has more apparel ads. It is also interesting to note that NBC had far fewer toy ads on Saturday morning in 1983 but increased those ads significantly by 1985.

Even though there are less commercials in our December sample there are more ads for toys and games in that month, as might be expected.

STUDY 2

The results from Study 1 analyzing the non-program content of Saturday morning television raise the question of whether children's programs at other times in the broadcast day and week will show a similar pattern. For example, we know that large numbers of children watch television in the afterschool timeslot - from 4 p.m. to 6 p.m.(Nielsen, 1985). We also know that the afterschool time slot contains many children's programs and that for many tv

markets this time period is the responsibility of the affiliate stations. Will these factors affect the number and type of commercials, and other non-program messages broadcast during this time period? Similarly, since Drop-ins are produced by the networks will they be available for the affiliates and will they, as a category, turn up in children's programs broadcast at times other than Saturday morning?

The purpose of Study 2 is to compare the overall pattern of non-program content (type, time and frequency) for children's programs broadcast at times other than Saturday morning in both 1983 & in 1985 to the patterns and results reported in Study 1 (1983 & 1985).

METHOD Study 2

Children's programs occur at times other than Saturday morning and afterschool. To achieve the goals of study 2 a definition of children's programs was developed and used to identify programs from the HDTV archive:

Definition of Children's television programs: The program must contain at least one of the following criteria to be coded as a children's program:

1] Uses program/commercial separators (e.g. Punky Brewster)

2] Use of animation (e.g. He-Man and Master's of the Universe)

3] Categorized as a children's program or children's anthology by The TV Schedule Book (Castleman & Podrazik, 1984) or by The Complete Directory to Prime Time Network TV Shows (Brooks & Marsh, 1981) (e.g. The Three Stooges films).

4] Use of puppets as primary characters (e.g. Muppet Show).

5] Clearly promoted and/or labeled by the network or affiliate as special program for children (e.g. ABC After School Special).

Sample. Using the above definition, a sample of children's programs broadcast at times other than Saturday morning was drawn from the Human Development and Television (HDTV) archive at Cornell University. The overall sample construction is explained in Study 1.

The sample used in Study 2 consists of all children's programs available in the archive sample from 1983 & 1985. Overall, 28 hours of programming were available for inclusion: 14 hours from 1983; and 14 hours from 1985. There were 4 hours from ABC, 2 hours from CBS and 22 hours from NBC - consequently, no network analysis was conducted due to the unevenness of the sample by network.

Children's programs were found in four time slots: Early fringe (6-8 p.m.) and prime time (8-11 p.m.), 6.5 hours; After school (4-6p.m.), 16.5 hours; Sunday morning, 4 hours; and Saturday afternoon, 1 hour. There were 4.5 hours of children's programs in March, 7.5 hours in June, 8 hours in September, and 8 hours in December.

Procedure: Data on month, time, program and network for each content message were taken from records made shortly after time of taping. The procedure was the same as described in Study 1. **Content Categories**. Content categories are the same as described in Study 1.

RESULTS

The combined 1983 & 1985 non-program content for children's programs broadcast at times other than Saturday morning was averaged to describe a typical hour of programming. Program time accounted for 48.07 minutes or 80.1% of the hour. Total non-program time accounted for 11.93 minutes or 19.1% of the hour. The non-program time consisted of 8.7 minutes of commercials, 1.2 minutes of PSAs, 2.1 minutes of Promotions, and .03 minutes of drop-ins. Frequency of message type were also averaged and it was found that the average

hour had 17.6 commercials (71.2% of all message types), 2.25 PSAs (9.1% of all message types), 4.8 promotions (19.5%), .05(.1%) drop-ins for an average of 24.65 messages per hour.

Figure 6 shows the relationship of non-program content at other times to both Saturday morning content and the changes within other times from 1983 to 1985.

--- Insert Figure 6 about here ---

Toy & game ads increased fourfold from 6.5% in 1983 to 27.6% in 1985, and similar to Saturday morning the percent of all commercials that are for cereal and candy decreased. When we compare other times to Saturday morning in the type of total messages, we found that other times had more commercials, fewer PSAs in 1983 but more in 1985, more promos in 1983 but fewer in 1985 and there was only 1 drop-in in the 28 hours analyzed in study 2. There were also more Food/Restaurant ads on other times than Saturday morning and more cereal ads but fewer candy ads. There are many more ads for the category "miscellaneous" at other times when compared to Saturday morning. While on Saturday morning these messages are for apparel at these "other" time slots the commercials are for Travel/leisure and retail sales.

Analyzing the average number of messages per hour by message type we found an average of two more messages per hour from 1983 to 1985, as there was on Saturday morning, but it was not due to increased commercials, there were no changes in the average number of commercials from 1983 to 1985 (17.6 for both years). There was an increase the average number of PSAs per hour from 1.6 in 1983 to 2.9 in 1985 and in the number of promos from 4.4 in 1983 to 5.2 per hour in 1985.

Differences in message type by month were examined in percent of types of messages because of the unequal sample size by month. This analysis revealed the same trend as Saturday morning, that is 7% of all commercials were for toys

& games in June and 24% in December. Candy ads were lower in both December and September (7.7% and 8.6% respectively) compared to 32.4% in June and 20.3% in March. The percent of all non-program message types that were for PSAs was lower in December 4.6% compared to 12.5% in June. The percent of program promotions was lowest in June with 13.5% of all message types compared to around 21% for each of the other three months in our sample.

Network analyses were impossible to conduct because of the extreme differences in sample size by network.

DISCUSSION

The non-program content of children's programs (Study 2) broadcast at times other than Saturday morning show similar changes from 1983 to 1985 (increase in toy ads, decrease in cereal and candy ads) as the Saturday morning sample. They were somewhat different to start with, however. For example, other times have virtually no drop-ins and while both Saturday morning and other times showed an average increase of 2 non-program messages per hour from 1983 to 1985, other times was higher to begin with. There was an increase in commercials on Saturday morning but not at "other times". The increase of two messages at other times can be accounted for by an increase in PSAs and promos. Another interesting difference is the shift in PSAs from Saturday morning to other times. While the total percent of messages that are PSAs on Saturday morning decreased from 1983 to 1985 (from 15.9% to 8%), they actually increased at other times (from 6.9% to 11.1%).

Combining the percent of all non-program messages from 1983 and 1985 at other times and comparing them to Saturday morning combined, we found:

	OTHER TIMES	SATURDAY MORNING
Commercials	71.2%	64.1%
PSAs	9.1	11.7
Promos	19.5	19.1
Drop-ins	.1	6.1

STUDY 3

One of the most intriguing findings from the analyses of studies 1 and 2 were the significant increases from 1978 (Barcus) and between 1983 & 1985 in the percent of commercials on children's programs that are for toys & games. This occurred both on Saturday morning children's programs as well as children's programs broadcast at times other than Saturday morning. What might account for this increase in the type of product being advertised on children's programs?

We do know that children's television programming is becoming increasingly commercialized. That is, broadcasters and programmers are trading in on the icons of popular culture and producing children's programs that are based on characters that can be purchased as toys and in some cases other products, for example cereal, in the market place (Hechinger, 1987; Forken,1986; Boyer,1986; Alperowicz, 1984; Wilke, Therrien, Dunkin, & Vamos, 1985; Cherubin,1984). Just how extensive is this commercialization? Whether one looks at Saturday morning, or children's programming at any time in the schedule, we can find a long list of programs that have some sort of product tie-in. Examples of first run syndicated programs that are shown in various markets around the country (including network affiliates in the current sample) and that have products available in the market place are: GI Joe, He-Man and the Masters of the Universe, Gobots, Transformers, Rambo, and Popples. In the past few years the networks have aired regularly scheduled programs whose central characters are successful products in the market place, among those are: The Wuzzles, Muppet Babies and Monsters, Hulk Hogan's Rock 'n Wrestling,

The Gummi Bears, The Smurf's, Pacman, and Monchichis. Several specials have been aired by the networks, generally in prime time, featuring, Strawberry Shortcake, The Care Bears, Pound Puppies, and The Charmkins.

The relationship between the market place and children's television has been documented historically (Bence, 1987). There is a long history of premium use, adult or character host selling, and commercial product tie-ins to children's programs (Adler et al., 1980). For example, many children in the 1950's had a Captain Midnight decoder ring and an official Rin-Tin-Tin membership kit. Furthermore, children's programs that were created from products that had their first success in the market place are not rare in the history of children's television programming. Early children's television shows (that were not sustained by the networks) were often sponsored by cereal and candy products such as Tootsie Hippodrome , sponsored by Tootsie Roll, and starring Captain Tootsie and Cowgirl Tootsie Candy, M&M Candy Carnival and a 15 minute variety show called Pud's Prize Party sponsored by Fleer's Bubble Gum which was mentioned, on the average, 27 times during one 15 minute program (Grossman,1981). Dialogue about a sponsor's product was often woven into the narrative of the program and it is for this reason that Kukla, Fran and Ollie cannot be rerun on commercial television today. An animated cartoon series, Linus the Lionhearted, was created in 1964 from the characters on Post cereal boxes (Woolery,1983) and in 1969, an animated cartoon was based on Mattel's famous toy car models Hot Wheels. More recently, animated programs such as Pacman and Gummi Bears continue this trend.

A new trend is developing, however, in which the television show becomes popular first, and the product, based on a program character, is then developed. Another possibility is that both the program and product are released simultaneously. An even newer phenomenon is the sale of interactive electronic toys that are activated by an electronic signal from the television

electronic toys that are activated by an electronic signal from the television program (Capuzzi,1986).

We do not make the distinction of which came first - the program or the product, believing that the important point here is to examine the strength of the association between toys in the market place and children's television.

We hypothesize that the increase in toy ads that was seen in both studies 1 and 2 can be accounted for by ads that are for products that are represented either as characters, e.g. G.I. Joe and He-Man, or props, e.g. Castle Greyskull, on children's television programs. We further hypothesize that the proportion of ads on children's programs- from our sample - that were for products that were represented on television programs will have increased significantly from 1983 to 1985.

METHOD

Ads were identified as containing products that had a children's television program tie-in in the following manner:

1] Products that are currently characters on **weekly** or regularly scheduled network or syndicated programs for children (see definition of children's programs). e.g. He-Man figures, Wuzzles, GI Joe Action figures; Chipmunk Band Characters; Muppet Babies.

2] Products related to current children's tv programs - network or syndicated. e.g. GI Joe Skystriker, Greyskull's castle (from He-Man),Gobots, Transformers, Atari Arcade games - e.g. Pacman etc., Kenner Star Wars toys and Snoopy Sno-Cone.

3] Products for characters or related props on children's "specials" usually aired in prime time. e.g. Care Bears, Rainbow Brite, Strawberry Shortcake.

4] Products for cereal or other types of food that is either named after a children's tv character (e.g. Smurf's Pasta, Donkey-Kong cereal, Fruity Pebbles cereal, Pacman cereal, C3PO cereal) or endorsed by tv characters (e.g. Cherrio's cereal endorsed by Peanuts gang).

5] Leisure activities (as a product type) like the Ice capades or traveling shows that feature characters on children's tv shows e.g. Walt Disney on Ice, Sesame Street Live.

All of the ads that appeared in the samples in study 1 and study 2 that met the above criterial were identified as having a program tie-in.

RESULTS

A total of 214 ads out of the total 1088 ads (19.7% of all ads) from 1983 & 1985 Saturday morning and children's programs broadcast at times other than Saturday morning were identified as having a program tie-in.

Table 3 shows the yearly differences in commercials that have program tie-ins on children's television programs.

--- Insert Table 3 about here ---

Forty-one ads were identified as having a program tie-in in our 1983 Saturday morning sample (20 hours). This represents 14.9% of all ads on Saturday morning in 1983. Seventeen were for toys (27% of all toy ads), 17 for cereal (25.4% of all cereal ads), and 7 in the "other" [1] category. A total of 23 ads had program tie-ins on children's shows at other times in 1983 (14 hours). This is only 9.3% of all ads at other times in 1983. Twelve were for toys (75% of all toy ads), 10 for cereal (15.6%) and 1 in the "other" category. Sixty-four or 12.3% of all ads on children's programs in 1983 have a program tie-in.

One-hundred and eleven (34.6%) of all ads on Saturday morning in 1985 had program tie-ins. Seventy-four were for toys (which represents 67.3% of all toy ads on Saturday morning), 16 were for cereal (28.6% of all cereal ads), and 21 were in the "other" category. Thirty-nine ads were found at other times, representing 15.9% of all ads at other times. Thirty-seven were for toys (54.4% of all toy ads at other times) and only 2 were for cereal (3.9% of all cereal ads at other times). One-hundred and fifty or 26.7% of all ads in 1985

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[1] Including other food, media, leisure, sweepstakes and apparel.

have a program tie-in. Total toy ads with a program tie-in doubled from 1983 (36.7%) to 1985 (62.4%).

Network analyses could not be conducted on all of these data as the "other times" had large unequal sample sizes by networks. Saturday morning analyses of the average number of ads per hour whose products have a program tie-in could, however, be examined. CBS had and average of .83 ads per hour for toys that had a program tie-in in 1983 and average of 4 ads per hour for toys in 1985. Overall, CBS had 2.2 ads per hour that had a program tie-in in 1983 and 6.25 ads per hour in 1985. NBC had .6 ads per hour for toys that had a program tie-in in 1983 and 3.3 in 1985. Average ads per hour on NBC that had program tie-ins were 2.2 in 1983 and 4.3 in 1985. CBS had 1.8 toy ads per hour that had a program tie-in in 1983 and 3.67 in 1985. Overall, CBS had 3.4 ads per hour in 1983 and 5.83 in 1985.

It is interesting to note that NBC had the largest number of toy ad increases from 1983 to 1985 in study 1. The data in study 3 reveal, however, that CBS had the largest increase in toy ads that had program tie-ins.

DISCUSSION

In general then, our findings reveal several interesting facts about the non-program content of television directed to children. First, comparing our findings for recent years to those of Barcus (done in the 70's), we find that the amount of time devoted to programs and non-program content has remained remarkably steady. Approximately 80% of the average hour of children's programming is devoted to programs, the remaining 20% to non-program content including Ads, PSAs, Promos, and Drop-ins. Most of the non-program time is devoted to Ads, and we found a category Barcus did not even code: Drop-ins. These "mini-programs" (such as In the News), represent a new type of non-program content on children's television. What impact they have on children,

if any, is yet to be determined. When we look at the time slots across Saturday morning, we find the number of Ads is inversely related to the number of PSAs. In general, the more ads for a given time slot, the fewer PSAs and vice-versa. Moreover, the number of ads is directly correlated to audience sized, as measured by the A.C. Nielsen Co. So early in the morning there are many PSAs and few ads, then as the audience increases to a peak in the 9-10 a.m. and 10-11 a.m. time slots, the number of ads increase and the number of PSAs decline. Across the months of the year there is little significant variation in the general categories of non-program content, but within the category of ads there is some. Not surprisingly, more toys are advertised in December and more food and restaurant ads appear in March than at other times in the year. Because the amount of time devoted to advertising remains the same, when there is an increase in toy ads as there is in December, there is a significant decrease in ads for other products, in this case for cereals.

How many ads does the average viewer see? Various authorities, multiplyng the hypothetical number of commercials on television per hour by the average hours people are known to watch, have come up with a number of commercials potentially seen by the ordinary person over the course of a year. These figures are often given for children, for example: "during childhood and adolescence the typical American will view 22,000 commercials each year" (Jeffrey et al., 1981) or ". . .an average child between the ages of 2 and 11 is presented with about 19,000 to 20,000 commercials per year, or about 50 to 55 commercials per average viewing day." (Adler et al., 1980, p. 155). The results for adults would be the same, since children and adults both watch 3-4 hours of television a day (A.C. Nielsen, 1985).

This figure of about 20,000 ads/year, however, seems to be based on frequency data obtained when many commercials were 60 seconds n length. Our data suggest a much larger figure. As we have seen, the average ad is now 30

seconds long, and getting shorter (7.5 second ones are beginning to appear). If the average viewer currently watches about 4 hours of television a day, then our data would lead us to conclude that with nearly 30 non-program messages an hour, an ordinary viewer would be exposed to more than 40,000 non-program messages a year, including well over 30,000 product ads. Furthermore, this averge does not tell the whole story, because the number of commercials viewed depends on what time of day and week a viewer generally watches. A person who watches weekday daytime television programs (Soaps) will be exposed to alkost twice as many product commercials per hour as a person who watches only Prime-Time or only on Saturday morning.

In study 2 we analyzed the non-program content of children's television programs at times other than Saturday morning. We found that the non-program content during other times was similar to Saturday morning, especially in terms of the kinds of product advertized. There were, however, more ads at other times, and less PSAs and Drop-ins than on a typical hour of Saturday morning television.

One of the most significant findings of our research is that over the years the types of products advertized to children have changed dramatically. There are more toy and game advertisements on children's programs and fewer ads for food, especially for heavily sugared food such as cereals and candy or snacks. there may be two reasons for this. First, the FTC held hearings about the effects of sugared cereal and candy ads on children in 1978, and even though these hearings ended inconclusively (see Rossiter, 1980), they did draw a good deal of negative attention to this category of advertising. Secondly, toy ads are increasing because of the increasingly popular "tie-in" toy, so we conducted a third study to determine how many toy ads are for products also represented in programs. We found a dramatic increase in this type of toy ad, as we hypothesized. In 1983 only 34% of the ads for toys were of this type,

whereas by 1985 they had increased to 62%. Whether any of this is harmful to children is an open question, but it does indicate a weakening of the difference between a program and an ad, as Action for Children's Television has suggested. When such distinctions are blurred, it becomes difficult to tell how much of television is devoted to advertising and how much to programs.

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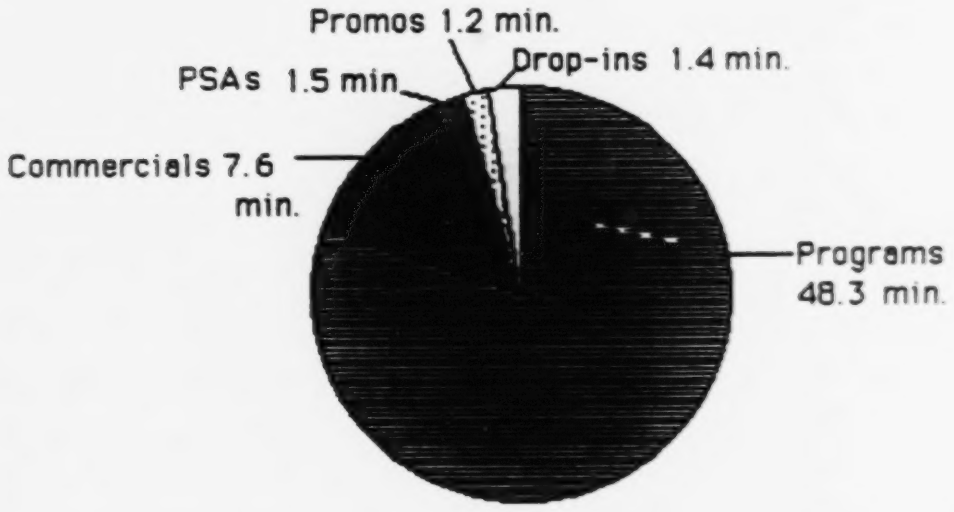
Figure 1

(A) Average Hour of Saturday Morning TV

1983-1985



(B) Non-program messages (frequency)

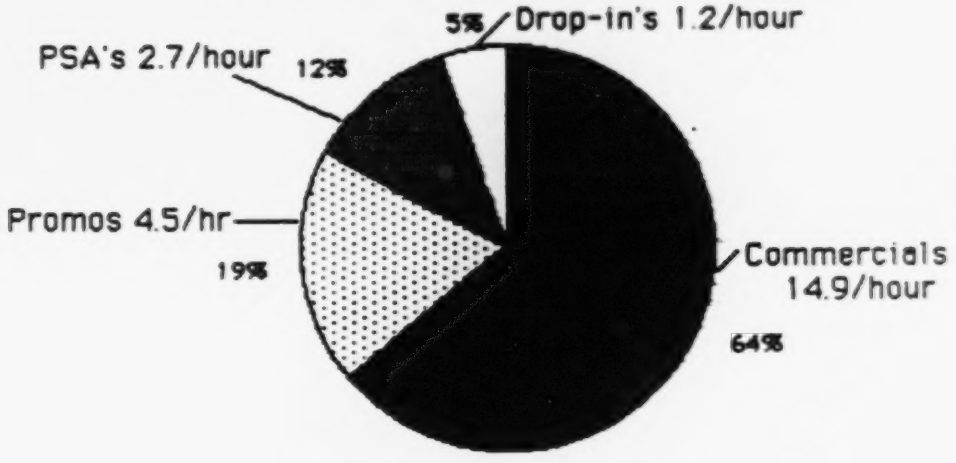
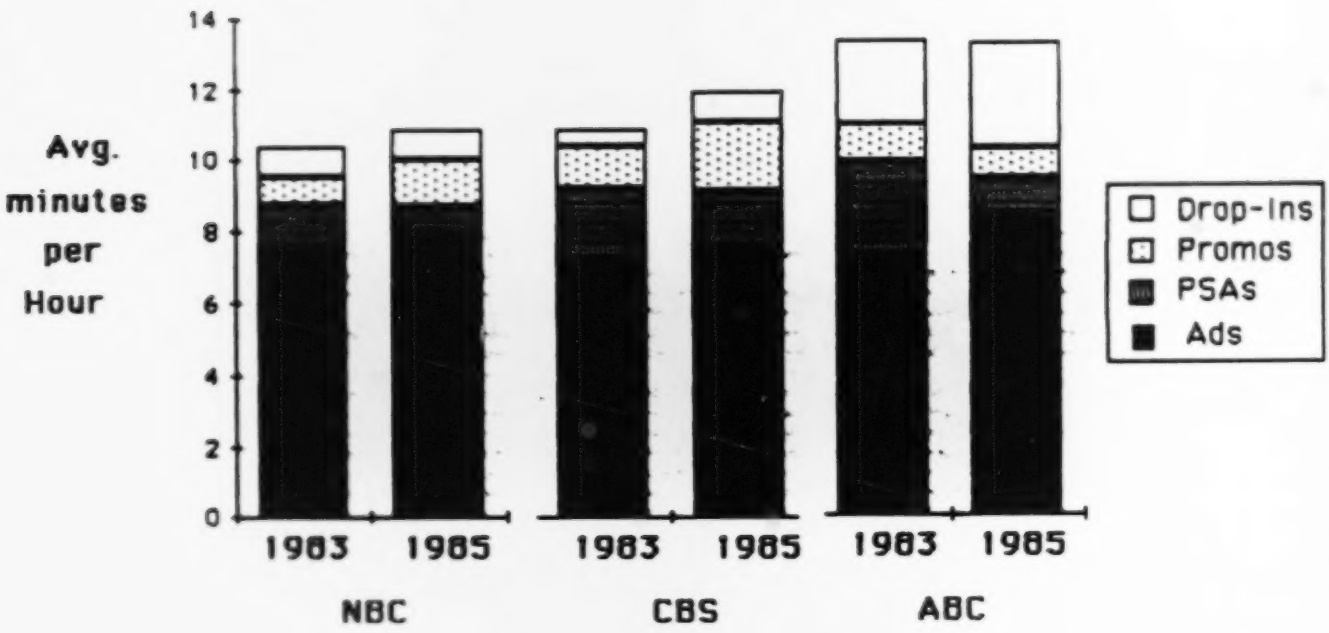


FIG. 2

NON-PROGRAM CONTENT BY NETWORK
1983-1985



NETWORK

FIG. 3 FREQUENCY OF TOY AND CEREAL ADS PER HOUR BY YEAR AND NETWORK (1983-1985)

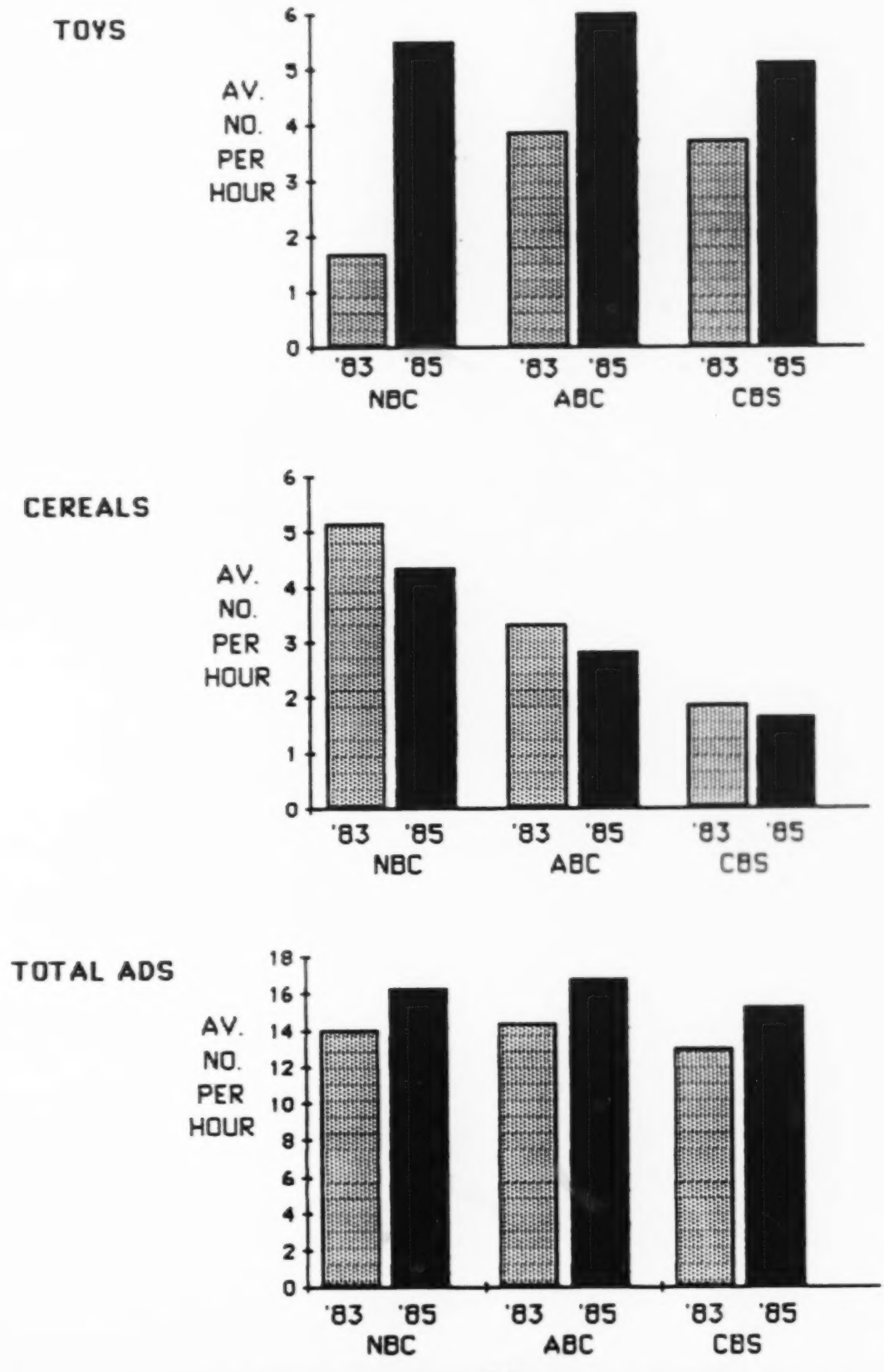


FIG. 4

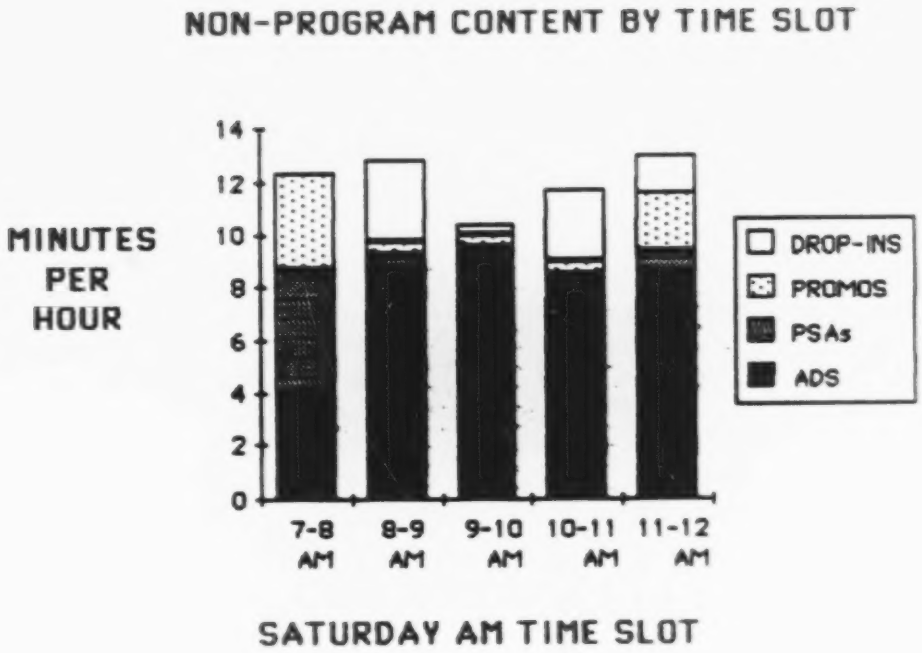

NON-PROGRAM CONTENT BY TIME SLOT
MINUTES PER HOUR
14
12
10
8
6
4
2
0
7-8 AM
8-9 AM
9-10 AM
10-11 AM
11-12 AM
DROP-INS
PROMOS
PSAs
ADS
SATURDAY AM TIME SLOT

FIG. 5

TYPE OF AD BY MONTH

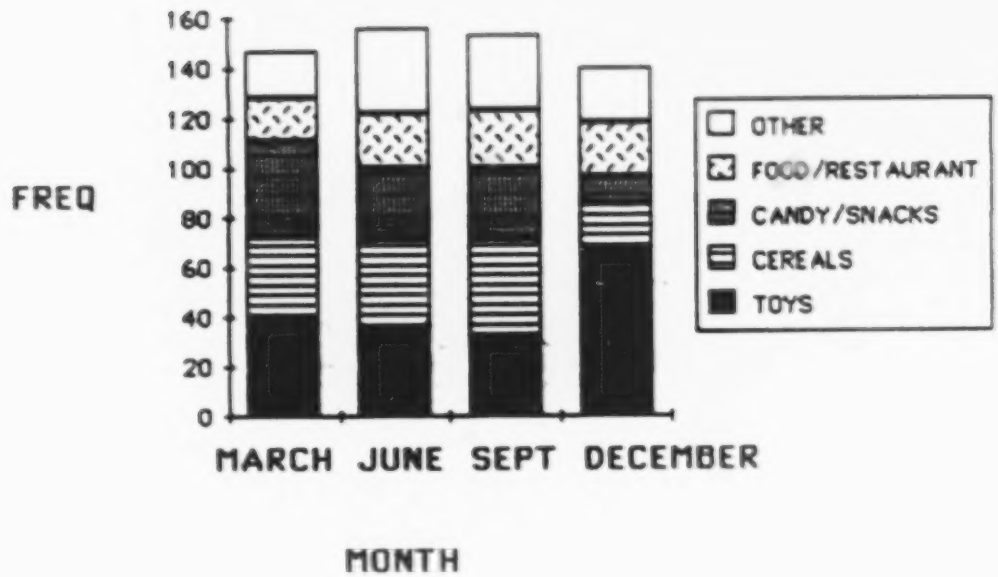


FIG. 6.

FREQUENCY OF NON-PROGRAM MESSAGE TYPES ON SATURDAY MORNING AND DURING CHILDREN'S PROGRAMS AT OTHER TIMES, FOR 1983 AND 1985

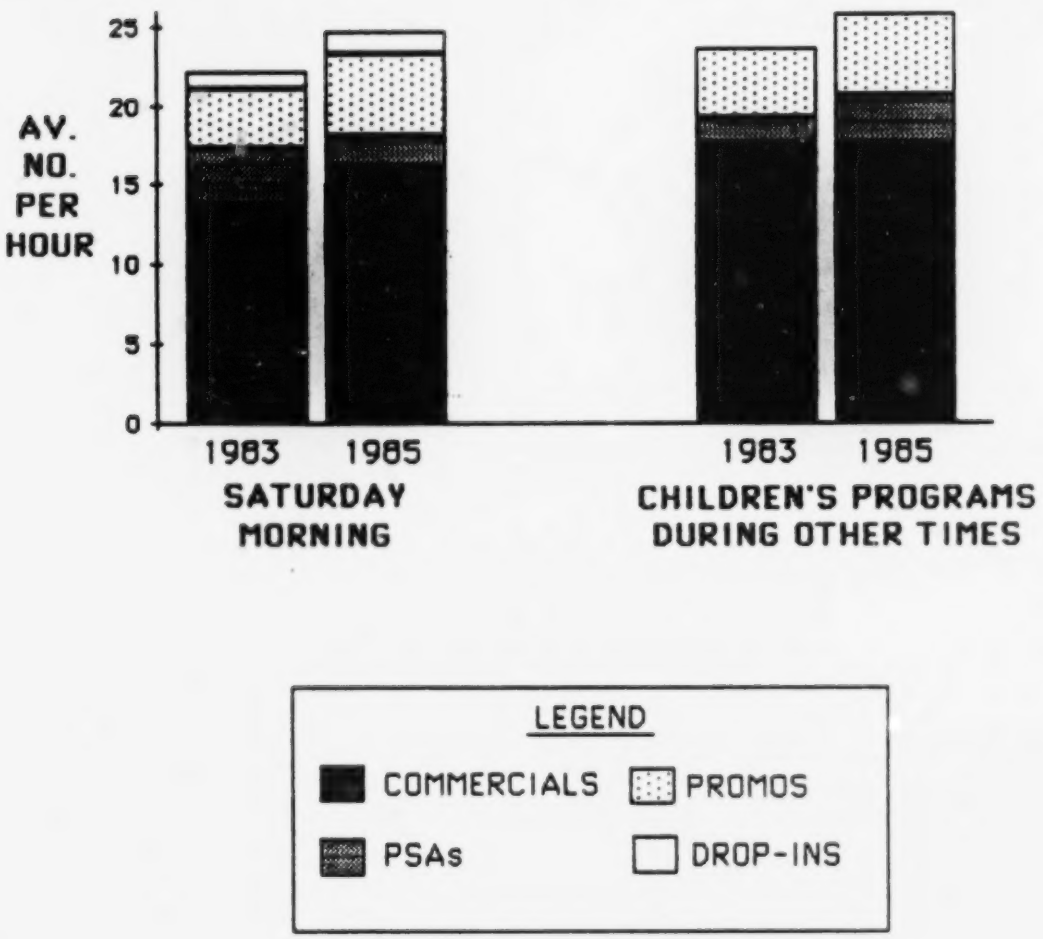


Table 1. Frequency distribution of non-program messages by type, year, and network, for 1983-1985[a] (in percent).

	NBC		ABC		CBS	
MESSAGE TYPE	1983	1985	1983	1985	1983	1985
BY MESSAGE TYPE[b]						
Total Commercials	71.2%	72.1%	59.9%	66.0%	58.3%	61.0%
Total PSAs	13.6%	6.6%	16.2%	5.2%	17.3%	11.0%
*Total Promos	11.9%	17.6%	15.0%	17.6%	23.1%	26.0%
*Total Drop-ins	3.4%	3.8%	9.0%	1.3%	1.3%	2.0%
Total Non-Program Messages (N) =	118	136	167	153	156	200
BY PRODUCT TYPE[c]						
**Toys & Games	11.9%	33.7%	27.0%	35.6%	28.6%	33.6%
*Cereals	36.9%	26.5%	23.0%	16.8%	14.3%	10.7%
Candy/Snacks[1]	13.1%	16.3%	25.0%	18.8%	22.0%	16.4%
Food/Restaurant[2]	19.0%	11.2%	12.0%	17.8%	14.3%	11.5%
**Miscellaneous[3]	19.0%	12.2%	13.0%	10.9%	20.9%	27.9%
Total Product Commercials (N) =	84	98	100	101	91	122

*significant difference by network for both 1983 & 1985, $p<.005$.
**significant difference by network for 1983 only, $p<.05$.

[a]based on a total of 930 non-program messages in 40 hours of Saturday morning television (20 hours for each year, 1983 and 1985).

[b]based on percent of total number of non-program messages for each network and year.

[c]based on percent of total number of product commercials for each network and year.

[1]including sugared foods and beverages, ready-to-eat desserts, and snack foods.
[2]including other foods and beverages, alcoholic beverages, and restaurants.
[3]including apparel, hygiene, finance, medicine, etc.

Table 2. Frequency distribution of non-program messages for 1978 (data reported by Barcus, 1978*), 1983 and 1985 (in percent).

	Barcus	Condry, Bence & Scheibe	
MESSAGE TYPE	1981	1983	1985
BY MESSAGE TYPE**			
Total Commercials	68.2%	62.3%	65.6%
Total PSAs	9.1%	15.9%	8.0%
Total Promos	22.7%	17.0%	26.1%
Total Drop-ins	(N/A)	4.8%	5.3%
TOTAL:	100%	100%	100%
BY PRODUCT TYPE***			
Toys & Games	12.0%	22.9%	34.3%
Cereals	34.0%	24.4%	17.4%
Candy/Snacks[1]	32.0%	20.4%	17.1%
Other Food/Beverage	1.0%	2.9%	5.0%
Restaurants	15.0%	12.0%	8.4%
Other[2]	6.0%	17.4%	17.8%
TOTAL:	100%	100%	100%

*Source: Barcus, F. E. (1978). Commercial children's television on weekends and weekday afternoons. Newtonville, MA: Action for Children's Television. His sample consisted of 33 hours of children's television, taken from both Saturday morning and weekday afternoon time periods.

[1] Including sugared foods and beverages, ready-to-eat desserts, and snack foods.

[2] Including apparel, hygiene, finance, medicine, etc.

Table 3. **Increase in product commercials with program tie-ins shown during network television programs directed at children, 1983 to1985.**

PERCENT OF ALL TOY ADS SHOWN

Time Period	1983	1985	Chi-Square
Saturday Morning	27.0%	67.3%	26.08, p<.005
Other Times	75.0%	54.4%	N. S.
All Children's Programs	36.7%	62.4%	14.52, p<.005

PERCENT OF ALL PRODUCT ADS* SHOWN

Time Period	1983	1985	Chi-Square
Saturday Morning	14.9%	34.6%	30.16, p<.005
Other Times	9.3%	15.9%	4.72, p<.05
All Children's Programs	12.3%	26.7%	34.51, p<.005

*includes ads for toys, cereal, food, media, leisure, sweepstakes and apparel.